

# PATENT ABSTRACTS OF JAPAN

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## (54) MANUFACTURE OF SEMICONDUCTOR DEVICE

### (57)Abstract:

**PURPOSE:** To arrange and form a lot of minute hetero interface intersecting facial direction by controlling width of an island spreading in direction of a face where the second compound semiconductor layer is deposited on the first compound semiconductor layer.

**CONSTITUTION:** When epitaxial growth is performed for the first compound semiconductor layer e.g. GaAs layer 2 on a substrate 1 e.g. GaAs substrate by MOCVD and is consequently performed for the second compound semiconductor layer 3 by MOCVD by changeovering supply raw gas, an island 4 of a low atomic layer is generated to the layers 2, 3. The island 4 selects the width W in the range of epitaxial growth temp. at a hetero interface of the both layers 2, 3 i.e. the substrate temp. 650W850° C at the time of MOCVD and the hetero interface of AlAs/GaAs formed to the side face of the island 4 by selecting pitch under temp. control e.g. many hetero interfaces crossing with deposited face direction of the both layers 2, 3 are formed.



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